

Mr. David C. Sylvester
Marathon Ashland Petroleum, LLC
539 South Main Street
Findlay, Ohio 45840

Dear Mr. Sylvester:

Re: Exempt Construction and Operation Status,
079-14676-00020

The application from Marathon Ashland Petroleum, LLC, received on July 23, 2001 and an application revision received on August 14, 2001 have been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following asphalt emulsion production located at 5th Street 1995, North Vernon, Indiana, is classified as exempt from air pollution permit requirements:

The plant consists of the following existing storage tanks and the construction of three (3) new storage tanks to replace tanks #7, #8, #9 and #10:

- (a) Three (3) new heated vertical fixed cone roof asphalt emulsion storage tanks, identified as #35, #36 and #37, each has a capacity of 40,055 gallons, tank's height of 35 feet, and diameter of 14 feet;
- (b) One (1) distillate fuel oil No. 2 boiler, with a heat input capacity of 4.0 million British thermal Units per hour (mmBtu/hr);
- (c) One (1) vertical fixed cone roof brine solution storage tank, identified as 1-34 with a capacity of 82 gallons, tank's height of 2 feet, and diameter of 2 feet.
- (d) One (1) vertical fixed cone roof asphalt emulsion storage tank, identified as 1-4, with a capacity of 20,500 gallons, tank's height of 36 feet, and a diameter of 10 feet;
- (e) One (1) vertical fixed cone roof asphalt emulsion storage tank, identified as 1-5 with a capacity of 19,155 gallons, tank's height of 30 feet, and a diameter of 10 feet;
- (f) One (1) vertical fixed cone roof asphalt emulsion storage tank, identified as 1-6, with a capacity of 30,480 gallons, tank's height of 36 feet, and a diameter of 12 feet;
- (g) One (1) horizontal asphalt cement storage tank, identified as 1-20, with a capacity of 25,050 gallons, tank's length of 39 feet, and a diameter of 10.0 feet;
- (h) Two (2) vertical fixed cone roof toll oil storage tanks, identified as 1-21 and 1-33 with a capacity of 10,000 gallons and 2,992 gallons respectively, tank 1-21 has a height of 12 feet, and diameter of 12 feet, tank 1-33 has a height of 5 feet and diameter of 10 feet;
- (i) One (1) vertical fixed cone asphalt emulsion storage tank, identified as 1-3 with a capacity of 18,600 gallons, tank's height of 30 feet, and a diameter of 10 feet;
- (j) One (1) vertical fixed cone roof emulsion base storage tank, identified as 1-1 with a capacity of 30,100 gallons, tank's height of 36 feet, and a diameter of 12 feet;

- (k) Two (2) horizontal asphalt cement storage tanks, identified as 1-11 and 1-12, each with a capacity of 30,100 gallons, tank 1-11 has a length of 36 feet, and a diameter of 12 feet, tank 1-12 has a length of 37 feet and a diameter of 12 feet;
- (l) Two (2) vertical fixed cone roof no. 2 fuel oil storage tanks, identified as 1-13 and 1-13A, tank 1-13 each has a capacity of 5,800 gallons, tank's height of 10 feet and a diameter of 10 feet;
- (m) One (1) vertical fixed cone roof caustic soda storage tank, identified as 1-18 with a capacity of 11,900 gallons, tank's height of 19 feet and a diameter of 10 feet;
- (n) One (1) horizontal asphalt cement storage tanks, identified as 1-19 with a capacity of 25,000 gallons, tank's length of 39 feet and a diameter of 11 feet;
- (o) One (1) vertical fixed roof cone asphalt emulsion storage tank, identified as 1-2 with a capacity of 30,100 gallons, tank's height of 36 feet, and a diameter of 12 feet; and
- (p) Two (2) vertical fixed roof cone soap storage tanks, identified as 1-16 and 1-17, each with a capacity of 10,000 gallons, height of 19 feet, and a diameter of 10 feet.

This source is hereby notified that this exemption does not relieve the source of the responsibility to comply with the provisions of any applicable federal, state, or local requirements, such as New source Performance Standards (NSPS), 40 CFR Part 60, as follows:

- (1) Opacity Limitations
Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:
 - (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.
- (2) New Source Performance Standards
Pursuant to 326 IAC 12 and 40 CFR Part § 60.110b, Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels), the following storage tanks are subject to the "Monitoring of Operation" requirement of Part 60.116b of this NSPS as follows:
 - (a) Proposed storage tanks with identification #35, #36 and #37 each with a capacity greater than or equal to 39,890 gallons storing liquid with a maximum true vapor pressure that is normally less than 5.2 kPa are subject to the "Monitoring of Operation" requirement of Part 60.116b of this NSPS.
 - (b) Section (b) of this NSPS requires the owner or operator of storage #35, #36 and #37 to keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. These records shall be kept for the life of the storage vessels.
 - (c) Section (d) of this NSPS requires the owner or operator of these storage vessels #35, #36 and #37 storing a liquid that is normally less than 5.2 kPa shall notify the IDEM, OAQ

within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range.

3. Particulate Emissions (PM) Limit for Indirect Heating Sources

Pursuant to 326 IAC 6-2-4, the PM emissions from the 4.0 mmBtu/hr boiler fired by fuel oil no. 2 shall be limited to 0.6 pounds per million British Thermal Units (lb/mmBtu), or an equivalent of 2.4 pounds per hour.

The source is being re-permitted based on the new rule 326 IAC 2.

Any change or modification which may increase the volatile organic compounds (VOC) potential to emit to 10 tons per year or more from the asphalt emulsions production, and from the equipment covered in this exemption must be approved by the Office of Air Quality (OAQ) before such change may occur.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

APD

cc: File - Jennings County
Jennings County Health Department
Air Compliance - Joe Foyst
Permit Tracking - Janet Mobley
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name:	Marathon Ashland Petroleum, LLC
Source Location:	5 th Street 1995, North Vernon, Indiana 47265
County:	Jennings
SIC Code:	2951
Exemption No.:	079-14676-00020
Permit Reviewer:	Aida De Guzman

The Office of Air Management (OAM) has reviewed an application from Marathon Ashland Petroleum, LLC relating to the operation of an asphalt emulsion manufacturing plant, which includes existing facilities and new facilities.

The plant consists of the following existing storage tanks and the construction of three (3) new storage tanks to replace tanks #7, #8, #9 and #10:

- (a) Three (3) new heated vertical fixed cone roof asphalt emulsion storage tanks, identified as #35, #36 and #37, each has a capacity of 40,055 gallons, tank's height of 35 feet, and diameter of 14 feet;
- (b) One (1) distillate fuel oil No. 2 boiler, with a heat input capacity of 4.0 million British thermal Units per hour (mmBtu/hr);
- (c) One (1) vertical fixed cone roof brine solution storage tank, identified as 1-34 with a capacity of 82 gallons, tank's height of 2 feet, and diameter of 2 feet.
- (d) One (1) vertical fixed cone roof asphalt emulsion storage tank, identified as 1-4, with a capacity of 20,500 gallons, tank's height of 36 feet, and a diameter of 10 feet;
- (e) One (1) vertical fixed cone roof asphalt emulsion storage tank, identified as 1-5 with a capacity of 19,155 gallons, tank's height of 30 feet, and a diameter of 10 feet;
- (f) One (1) vertical fixed cone roof asphalt emulsion storage tank, identified as 1-6, with a capacity of 30,480 gallons, tank's height of 36 feet, and a diameter of 12 feet;
- (g) One (1) horizontal asphalt cement storage tank, identified as 1-20, with a capacity of 25,050 gallons, tank's length of 39 feet, and a diameter of 10.0 feet;
- (h) Two (2) vertical fixed cone roof oil storage tanks, identified as 1-21 and 1-33 with a capacity of 10,000 gallons and 2,992 gallons respectively, tank 1-21 has a height of 12 feet, and diameter of 12 feet, tank 1-33 has a height of 5 feet and diameter of 10 feet;
- (i) One (1) vertical fixed cone asphalt emulsion storage tank, identified as 1-3 with a capacity of 18,600 gallons, tank's height of 30 feet, and a diameter of 10 feet;

- (j) One (1) vertical fixed cone roof emulsion base storage tank, identified as 1-1 with a capacity of 30,100 gallons, tank's height of 36 feet, and a diameter of 12 feet;
- (k) Two (2) horizontal asphalt cement storage tanks, identified as 1-11 and 1-12, each with a capacity of 30,100 gallons, tank 1-11 has a length of 36 feet, and a diameter of 12 feet, tank 1-12 has a length of 37 feet and a diameter of 12 feet;
- (l) Two (2) vertical fixed cone roof no. 2 fuel oil storage tanks, identified as 1-13 and 1-13A, tank 1-13 each has a capacity of 5,800 gallons, tank's height of 10 feet and a diameter of 10 feet;
- (m) One (1) vertical fixed cone roof caustic soda storage tank, identified as 1-18 with a capacity of 11,900 gallons, tank's height of 19 feet and a diameter of 10 feet;
- (n) One (1) horizontal asphalt cement storage tanks, identified as 1-19 with a capacity of 25,000 gallons, tank's length of 39 feet and a diameter of 11 feet;
- (o) One (1) vertical fixed roof cone asphalt emulsion storage tank, identified as 1-2 with a capacity of 30,100 gallons, tank's height of 36 feet, and a diameter of 12 feet; and
- (p) Two (2) vertical fixed roof cone soap storage tanks, identified as 1-16 and 1-17, each with a capacity of 10,000 gallons, height of 19 feet, and a diameter of 10 feet.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on July 23, 2001, with additional information received on August 12, 2001.

Emission Calculations

- (a) Storage Tanks Emissions: See attached Tanks Program 4.0 Emissions Spreadsheets.
- (b) Asphalt emulsion consists of three (3) basic ingredients: asphalt, water and an emulsifying agent. The emulsifiers are fatty acids, which are wood-product derivatives such as tall oils, rosins, and lignins. Emulsifiers are turned into soap by reacting with sodium hydroxide or potassium hydroxide. Heated asphalt is fed into the colloid mill where it is divided into microscopic particles and dispersed in water containing the emulsifier to form the product, asphalt emulsion.

There is an **insignificant amount or no VOC** is emitted from the process, since all the ingredients used do not contain VOC except for the asphalt. However, when asphalt is milled it is not heated at a high temperature to make the VOC flash off.

- (c) Fuel Oil No. 2 Combustion: See Page 1 of 1 TSD Appendix A for detailed Calculations.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation

is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential To Emit (tons/year)
PM	0.25
PM-10	0.25
SO ₂	0.89
VOC	0.044
CO	0.63
NO _x	2.50

Justification for the Level of Approval

Pursuant to 3216 IAC 2-1.1-3, the source is exempt from the registration and permitting requirements of this article, since its potential to emit Oxides of Nitrogen (NO_x) is well below the Registration threshold level of 10 tons/year.

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Limited Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO ₂	VOC	CO	NO _x	HAPs
Fuel Oil No. 2 Combustion	0.25	0.25	0.89	0.04	0.63	2.5	0.00
Storage Tanks	0.0	0.0	0.0	0.004	0.0	0.0	0.004
Total Emissions	0.25	0.25	0.89	0.044	0.63	2.50	0.004

County Attainment Status

The source is located in Jennings County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	not determined

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Jennings County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Jennings County has been classified as attainment or unclassifiable for all the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing re-permitted source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity):

Pollutant	Emissions (ton/yr)
PM	0.25
PM10	0.25
SO ₂	0.89
VOC	0.044
CO	0.63
NO _x	2.5
HAPs	0.004

- (a) This existing re-permitted source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing re-permitted source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

The source is being re-permitted based on the New Reform Rules.

Federal Rule Applicability

- (a) New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60):
- (1) 40 CFR § 60.110b, Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessel) for which construction, reconstruction, or modification commenced after July 23, 1984.
 - (a) Although each of the following existing storage tanks, with identification, 1-1, 1-2, 1-4, 1-5, 1-6, 1-11, 1-12, 1-19 and 1-20 has a capacity of greater than 19,813 gallons (75 m³), they are **not** subject to this NSPS because their construction predates the rule applicability date of July 23, 1984.
 - (b) Proposed storage tanks with identification #35, #36 and #37 each with a capacity greater than or equal to 39,890 gallons storing liquid with a maximum true vapor pressure that is normally less than 5.2 kPa are subject to the "Monitoring of Operation" requirement of Part 60.116b of this NSPS.

Section (b) requires the owner or operator of storage #35, #36 and #37 to keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. These records shall be kept for the life of the storage vessels.

Section (d) requires the owner or operator of these storage vessels #35, #36 and #37 storing a liquid that is normally less than 5.2 kPa shall notify the IDEM, OAQ within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range.

- (c) Storage tanks, identified as 1-3, 1-13, 1-13A, 1-21 and 1-33 are **not** subject to this NSPS because each capacity is less than 75 m³ (19,813 gallons).
 - (d) Storage tanks identified as 1-16, 1-17, 1-18 and 1-34 are **not** subject to this NSPS because they do not store volatile organic liquid (VOL).
2. 40 CFR § 60.40c, Subpart Dc- Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. This NSPS applies to each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989, and that has a maximum design heat input capacity of 100 mmBtu/hr or less, but greater than or equal to 10 mmBtu/hr.

The 4 mmBtu/hr fuel oil no. 2 fired boiler is not subject to this NSPS because its capacity is less than 10 mmBtu/hr.

- (b) National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 40 CFR Part 63).

There are no NESHAPs that can possibly be applicable to these tanks.

State Rule Applicability - Entire Source

- (a) 326 IAC 2-6 (Emission Reporting)
This source is not subject to 326 IAC 2-6 (Emission Reporting), because its VOC potential to emit are at levels well below one hundred (100) tons per year.
- (b) 326 IAC 5-1 (Visible Emissions Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:
 - (1) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

- (a) 326 IAC 8-4-3 (Petroleum liquid Storage Facilities)
This rule applies to petroleum liquid storage tanks with capacities greater than 150,000 liters (39,000 gallons) containing volatile organic compounds whose true vapor pressure is greater than 10.5 kPa (1.52 psi).

Storage tanks, identified as 1-13, 1-13A which store fuel oil no.2 are **not** subject to this rule, because each capacity is less than 39,000 gallons.

- (b) 326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)
This rule is not applicable to these storage tanks, because this rule only applies to sources in Floyd, Clark, Lake or Porter County.
- (c) 326 IAC 6-2 (Sources of Indirect Heating)
The fuel oil no. 2 boiler which was installed in October 1989 is subject to 326 IAC 6-2-4. This rule mandates a PM emissions limit using the following equation:

$$\begin{aligned} P_t &= \frac{1.09}{Q^{0.26}} \\ &= \frac{1.09}{(4)^{0.26}} \\ &= 0.76 \text{ lb/mmBtu, since this calculated PM limit is greater than 0.6 lb/mmBtu, the boiler will be limited to 0.6 lb/mmBtu} \end{aligned}$$

Where: P_t = pounds of PM emitted per million Btu heat input
 Q = Total source maximum operating capacity rating in million Btu per hour (mmBtu/hr)

Using fuel oil no. 2 as fuel:

$2 \text{ lb/1000gal} * \text{gal}/0.140 \text{ mmBtu} = 0.0143 \text{ lb/mmBtu} < 0.6 \text{ lb/mmBtu}$. Therefore the boiler is in compliance.

- (d) 326 IAC 2-4.1-1 (New Sources of Hazardous Air Pollutants)
This rule is not applicable to the source because it is not a major sources of HAPs.
- (e) 326 IAC 7-1.1-1 (Sulfur Dioxide Emission Limitation)
The distillate fuel oil no. 2 boiler is not subject to 326 IAC 7-1, because its potential to emit sulfur dioxide is less than 25 tons per year or less than 10 pounds per hour.

Conclusion

The construction of the new storage tanks and the operation of the existing asphalt emulsion production plant shall be subject to the conditions of the attached **Exemption 079-14676-00020**.

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
#1 and #2 Fuel Oil

Page 1 of 1 TSD App A

Company Name: Marathon Ashland Petroleum, LLC
Address, City IN Zip: 5th St., 1995, North Vernon, IN 47265
Exemption No.: 079-14676-00020
Reviewer: Aida De Guzman
Date Application Received: July 23, 2001

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	S = Weight % Sulfur <div style="border: 1px solid black; padding: 2px; display: inline-block;">0.05</div>
<div style="border: 1px solid black; padding: 2px; display: inline-block;">4</div>	250.285714	

Emission Factor in lb/kgal	Pollutant				
	PM*	SO ₂	NO _x	VOC	CO
	2.0	7.1 (142.0S)	20.0	0.34	5.0
Potential Emission in tons/yr	0.25	0.89	2.50	0.04	0.63

Methodology

1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.140 MM B

Emission Factors are from AP 42, Tables 1.3-1, 1.3-2, and 1.3-3 (SCC 1-03-005-01/02/03) Supplement E 9/98 (see erata file)

*PM emission factor is filterable PM only. Condensable PM emission factor is 1.3 lb/kgal.

Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emission calculations.